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CHARLES ELMORE

SUPREME COURT OF THE UNITED STATES

OCTOBER TERM, 1928

No. 101 to 3

POWERS-KENNEDY CONTRACTING CORP. and ANTHONY G. FLECK

Petitioners

v.

CONCRETE MIXING AND CONVEYING CO.

Respondent

PETITION FOR A WRIT OF CERTIORARI TO THE UNITED STATES CIRCUIT COURT OF APPEALS FOR THE SECOND CIRCUIT

and

BRIEF FOR PETITIONERS

and

APPENDIX CONTAINING CONFLICTING OPINIONS OF THE LOWER COURTS

JOHN D. MORGAN
ALAN M. JOHNSON
Counsel for Petitioners

APPEAL PRINTING CO., 32 THAMES ST., NEW YORK CITY

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Supreme Court of the United States

OCTOBER TERM, 1928.

POWERS-KENNEDY CONTRACTING CORPORATION and ANTHONY G. FLECK, *Petitioners,* *v.* CONCRETE MIXING AND CONVEYING COMPANY, *Respondent.*	No.

PETITION FOR WRIT OF CERTIORARI.

May it Please the Court:

The petition of the Powers-Kennedy Contracting Corporation and Anthony G. Fleck respectfully shows to this Honorable Court:

Summary Statement of the Matter Involved.

The basis for this petition is that the Circuit Court of Appeals for the Second Circuit has held, in an opinion (27 Fed. [2nd] 668, and Appendix to our Brief, pp. 24-31) filed July 17, 1928, that United States Patent No. 1,127,660, to McMichael (R., pp. 372-379) is valid, and the Circuit Court of Appeals for the Ninth Circuit has held, in an opinion filed August 20, 1928, that said Patent No. 1,127,660 is invalid (not yet reported—Appendix to our Brief, pp. 43-53).

The Circuit Court of Appeals for the Second Circuit upheld the patent by a divided court, Judge MANTON, the presiding Judge, dissenting. The Circuit Court of Appeals of the Ninth Circuit invalidated the patent by a unanimous opinion (*Concrete Mixing and Conveying Co.* v. *R. C. Storrie & Co.*—See Appendix to our Brief, pp. 43-53). Thus, in these two litigations, two Circuit Judges have held Patent No. 1,127,660 to be valid, and four Circuit Judges have held the patent to be invalid.

The records in the two suits *in so far as they bear on the question of validity or invalidity of the patent* are substantially identical. On the questions of infringement (if the patent be valid) the two records are "widely different," as stated in the opinion of the Court of Appeals for the Ninth Circuit.

The question of the validity or invalidity of this McMichael Patent No. 1,127,660, is one of great and far-reaching industrial importance. Under the decision of the Court of Appeals for the Second Circuit, it is a valid, and in effect, a *pioneer* patent (Appendix to our Brief, p. 26, lines 12-22) and as such would completely control the pneumatic placing of concrete for the life of the patent, while under the decision of the Court of Appeals for the Ninth Circuit, the pneumatic placing of concrete is free to all. This industry not only is of vast proportions but extends to all parts of the country, and affects many thousands of building projects of all kinds. This uncertainty and the consequent injury to industry can only be terminated by this Court.

The patent to Smith, 122,497 (R., 389-394) was in the records of both suits. As to this patent, the Circuit Court of Appeals, Second Circuit, held:

> "* * * whether it was practically operable may well be doubted. * * * It cannot be regarded

> as an anticipation." (See Opinion, Appendix to our Brief, p. 27, lines 24-33).

As to this Smith patent, the Circuit Court of Appeals of the Ninth Circuit held:

> "The specifications described the apparatus as specially adapted to the manufacture and convection of *concrete* composition through pipes so as to set quickly upon reaching its destination, and form a solid mass of artificial stone, and uncontradicted testimony was given of the successful use of the Smith machine in conveying *concrete* through a pipe by compressed air." (Italics ours.)

The Circuit Court of Appeals of the Ninth Circuit, correctly applied the controlling authority of this Court in the case, namely, *Concrete Appliances Co.* v. *Gomery*, 269 U. S. 177, as to the anticipating relation of the other prior patents showing similar mechanism to that of McMichael's patent for pneumatically conveying materials other than concrete, holding:

> "It is true that Duckham was engaged in moving a material quite different from concrete, but that fact is not of importance on a question of anticipation (*Concrete Appliances Co.* v. *Gomery*, 269 U. S. 177)." (Appendix to our Brief, p. 46, lines 16-19.)

The Circuit Court of Appeals, Second Circuit, on the contrary, held this authority to be restricted to the precise facts of that case and as having no bearing on the present absolutely analogous case, nor any general bearing whatsoever, holding:

> "But the Gomery decision does not rest merely on the assumption that apparatus for coal and grain could have been used for wet concrete with-

> out inventive thought. * * * The idea was already of common knowledge and was being applied generally."

In view of these contradictory holdings, the *Gomery* decision means one thing in the Ninth Circuit, and exactly the opposite in the Second Circuit, and its authority and meaning in the remaining circuits is undetermined.

The Circuit Court of Appeals of the Second Circuit sustained the validity of the patent by a divided court, as previously noted, and, it would appear to your petitioners, it inferentially desires this Court to pass upon the validity of this patent:

> "Whether this was the ground adopted to distinguish them in the Ulen case, or whether the Court as then constituted accepted the slug theory, does not appear and is not important. On some ground we distinguished the prior art and sustained the validity of the patent, and that ruling we *should follow until its error is pointed out by higher authority.*" (Italics your petitioners.') (Appendix, p. 30, line 31, to p. 31, line 3.)

Reasons Relied on for the Allowance of the Writ.

1. The Circuit Court of Appeals of the Second and Ninth Circuits have rendered conflicting decisions as to the validity of McMichael patent No. 1,127,660.

2. Absolutely opposite constructions were given by those two tribunals to the controlling decision of this Court in *Concrete Appliance Co.* v. *Gomery*, 269 U. S. p. 177, in which your Honors held:

> "The observations of common experience in the mechanical arts would lead one to expect that, once the feasibility of using 'wet' concrete in building

operations was established, the mechanical skill of those familiar with engineering and building problems would seek to make use of known methods and appliances for the convenient handling of this new building material.

"To say nothing of the universally known methods and appliances for raising and distributing water, there were ready at hand widely used and generally understood appliances for the elevation and distribution of mobile substances, such as grain and coal, which involved, both in principle and in practical detail, all the elements described in the Callahan claims. Failure to make use of these obviously applicable methods and appliances in combination, suitable to the particular work in hand, in dealing with a new, plastic material capable of similar treatment, would, we think, have evidenced a want of ordinary mechanical skill and of familiarity with construction problems and methods."

3. Consequently, the Circuit Court of Appeals of the Ninth Circuit gave full effect to the decision in applying the prior art, stating:

> "It is true that Duckham was engaged in moving material quite different from concrete, but that fact is not of importance on the question of anticipation (Concrete Appliance Co. *v.* Gomery, 269 U. S. 177)."

But, the Circuit Court of Appeals of the Second Circuit refused to follow this authority, holding:

> "The Supreme Court case [Concrete Appliance Co. *v.* Gomery, 269 U. S. 177] does not require us to reconsider the validity of the McMichael patent" (Appendix, p. 26, lines 28-30).

4. Because of this refusal of the Circuit Court of Ap-

peals of the Second Circuit all of the anticipating and invalidating prior art was disregarded and set aside (Appendix, pp. 25-26).

5. In the face of Smith patent 122,497, which discloses a tank, a supply pipe for compressed air and a concrete conveying pipe, the Second Circuit Court of Appeals held the McMichael patent to be, in effect, a pioneer patent, as follows:

> "To do this was to make a new machine, and one who thought of doing it would have had a new and inventive idea; that is, that of blowing concrete, *which had not been done before*." (Italics ours.)

6. Four out of six Circuit Judges who considered these two cases held the patent to be invalid.

7. The fact, as a secondary defense, that McMichael was not a prior inventor, and, therefore, for that reason the patent is invalid.

8. The fact, as a secondary defense, that McMichael introduced new matter into his application while pending before the Patent Office, and on this ground the patent is invalid.

9. The fact, as a secondary defense, that McMichael's machine will not operate as described in the specification of the patent, and on this ground the patent is invalid.

10. The fact, as a secondary defense, that the Court of Appeals of the Second Circuit did not give proper weight to a copyrighted article published in the Journal of the Western Society of Engineers on May 13, 1918, by Mr. Kirkland, the respondent's chief engineer, several years before any suit was brought on the McMichael pat-

ent, in which he described the operation of the McMichael machine (R., pp. 147, 148) *which is exactly the same as the operation of the sand, grain, coal and ash pneumatic blowers, of record,* and wherein Kirkland also stated that he "blew" or transported both concrete and limestone screenings with the McMichael machine as the job demanded. Also in not giving proper weight to testimony of prior use, based on this documentary evidence, supported by oral testimony; all of which, if properly weighed, would show that the McMichael patent is invalid on this secondary ground.

WHEREFORE, your petitioners respectfully pray that a writ of certiorari be issued out of and under the seal of this Honorable Court, directed to the Circuit Court of Appeals of the Second Circuit, commanding that Court to certify and to send to this Court for its review and determination, on a day certain to be therein named, a full and complete transcript of the record and all proceedings in the case entitled on its docket—No. 9732, Concrete Mixing and Conveying Company, Plaintiff-Appellee *v.* Powers-Kennedy Contracting Corporation and Anthony G. Fleck, Defendants-Appellants, and that the decree of the said Circuit Court of Appeals for the Second Circuit may be reversed by this Honorable Court, and that your petitioners may have such other and further relief in the premises as to this Honorable Court may seem meet and just; and your petitioners will ever pray.

POWERS-KENNEDY CONTRACTING CORPORATION
and ANTHONY G. FLECK,

By JOHN D. MORGAN,
ALAN M. JOHNSON,
Counsel.

SUPREME COURT OF THE UNITED STATES.

OCTOBER TERM, 1928.

POWERS-KENNEDY CONTRACTING CORPORATION and ANTHONY G. FLECK, *Petitioners*, v. CONCRETE MIXING AND CONVEYING COMPANY, *Respondent.*	No.

BRIEF IN SUPPORT OF PETITION FOR WRIT OF CERTIORARI.

I.

Opinions of the Courts Below.

The opinion of the Circuit Court of Appeals of the Second Circuit in this case was handed down July 17, 1928 (27 Fed. [2nd] 668; R., 414, and Appendix hereto, p. 21). The opinion of the district judge was not reported, but is printed in R., 417, and Appendix hereto (p. 22).

The conflicting opinion of the Court of Appeals of the Ninth Circuit in *Concrete Mixing & Conveying Co.* v. *R. C. Storrie & Co.* was handed down August 20, 1928, and has not been reported (See Appendix hereto, p. 43). The opinion of the District Judge in that case is reported in 23 Fed. (2nd) 131 (Appendix hereto, p. 32).

The "*Ulen* suit" (*Concrete Mixing & Conveying Co.* v. *Ulen Contracting Corp.*) is referred to freely in the record and decisions, and the decision of the District Judge therein is found in 12 Fed. (2nd) 929 (Appendix, p. 15).

The opinion of the Court of Appeals of the Second Circuit is found in 12 Fed. (2nd) 931 (Appendix, p. 21).

Your petitioners were in nowise connected with the *Ulen* suit.

To more readily clarify the position of the Court of Appeals for the Second Circuit, a brief detailed consideration of the decisions will be had.

In the trial of said *Ulen* suit in the District Court, Judge A. N. HAND brushed aside the prior art having substantially the same structure and mode of operation as the McMichael patent for the reason that the materials handled or "blown" were not the same. On this point, he held:

> "A device for transporting sand, ashes, or coal, even, by means of an apparatus having a structural resemblance to complainant's device nearer than we find, furnishes no anticipation of the patent, and McMichael's conveyor, when applied to concrete, is not objectionable as a double use. Concrete Appliances Co. *v.* Meinken (C. C. A.), 262 F. at page 964. As Judge Denison remarked in the foregoing case: 'Certainly the art of loading coal into a ship for fuel is not the same art as that of distributing wet concrete to a building structure; nor is the analogy very close.'"

This decision of the Circuit Court of Appeals of the Sixth Circuit (*Concrete Appliances* v. *Meinken*, 262 Fed. 964) upon which Judge HAND relied, was one of the conflicting decisions which brought the Callahan patent before your Honors on certiorari in *Concrete Appliance Co.* v. *Gomery*, 269 U. S., p. 177, and this particular ruling as to the invalidating effect of the prior art was emphatically reversed in the passage from *Concrete Appliances*

Co. v. *Gomery*, quoted at pages 4 and 5 of our accompanying petition.

The *Gomery* decision was handed down by your Honors on November 16, 1925.

Notwithstanding that the District Judge in the *Ulen* suit had followed the Court of Appeals of the Sixth Circuit in disregarding the prior patents, for blowing grout (which is wet concrete with only small stones or none), sand, wheat, ashes, etc., and further notwithstanding the explicit reversal of the decision of the Court of Appeals of the Sixth Circuit by your Honors in the *Gomery* decision, the Court of Appeals, Second Circuit, on May 3, 1926 (12 Fed. [2nd] 931), affirmed the District Court *per curiam*, without opinion.

In the present case, the Court of Appeals of the Second Circuit *again* refused to follow your Honors' decision in the *Gomery* case, and, in fact, persisted in following the reversed decision of the Court of Appeals of the Sixth Circuit, and their own decision in the *Ulen* suit based thereon, stating:

> "* * * that ruling we should follow, *until its error is pointed out by higher authority.*" (Italics ours.)

II.

Jurisdiction.

The date of the opinion of the Circuit Court of Appeals of the Second Circuit is July 17, 1928—27 Fed. (2nd) 668. The mandate has been stayed until October 15, 1928, pending the filing of this petition. The petitioners are under bond for some $21,000.

III.

Statement of the Case.

A full statement of the case has been given in the accompanying petition, and, in the interest of brevity, the statement will not be repeated at this point.

IV.

Specification of Errors.

A full statement of the errors has also been made in the petition, and, for the sake of brevity, will not be here repeated.

V.

Argument.

The facts and reasons which have been set forth in the accompanying petition, and preceding portions of this brief, are believed to be sufficient to set this cause before your Honors, and that fuller argument at this point may be waived for the sake of brevity, except that Farnham patent 747,396 (R., 44) for "blowing" sand, having essentially the same structure as McMichael, exemplifies a part of the prior art which was disregarded by the Second Circuit Court of Appeals. It is reproduced, pages 55 *et seq.* Appendix hereto.

CONCLUSION.

It is, therefore, respectfully submitted that this case is one calling for the exercise by this Court of its supervisory powers, in order that the confusion and uncertainty in the trade due to the conflicting decisions of the

Circuit Court of Appeals of the Second and Ninth Circuits, on the validity of the McMichael patent, be terminated, and that to such an end a writ of certiorari should be granted and this Court should review the decision of the Circuit Court of Appeals for the Second Circuit and finally reverse it.

Respectfully submitted,

JOHN D. MORGAN,
ALAN M. JOHNSON,
Counsel for Petitioners.

APPENDIX.

CONFLICTING OPINIONS OF THE COURTS of the SECOND AND NINTH CIRCUITS on the VALIDITY OF McMICHAEL PATENT NO. 1,127,660

UNITED STATES DISTRICT COURT,

SOUTHERN DISTRICT OF NEW YORK.

CONCRETE MIXING & CONVEYING COMPANY, *Complainants,* v. ULEN CONTRACTING CORPORATION and SHANDAKEN TUNNEL CORPORATION, *Defendants.*	E 26/325

STEPHEN J. COX, Solicitor for Complainant, STEPHEN J. COX and A. G. MCCALEB, Counsel.

JAMES L. STEUART, Solicitor and Counsel for Defendant Ulen Contracting Corporation.

FRANK S. MOORE, Solicitor for Defendant Shandaken Tunnel Corporation, JAMES L. STEUART, Counsel.

AUGUSTUS N. HAND, District Judge:

This is a suit for infringement of U. S. Letters Patent No. 1,127,660 to John H. McMichael, granted February 9th, 1915, Claims 2, 4, 6, 17, 21, 22, 28, 34 and 35.

The invention has for its object to provide a method of and an apparatus for elevating and transporting concrete. The patentee describes concrete in the specification as "a composition containing relatively large pieces of rock or stone as uniform in size as possible, together with predetermined proportions of sand, cement and water." Pneumatic pressure is used to compress the concrete into a restricted conduit pipe and then additional

pressure by means of a jet of compressed air is applied to the mass near the entrance of the conduit pipe, thereby pushing the mass into and along the conduit. The McMichael invention is a most interesting one and has apparently met with general acceptance. Engineers at first distrusted the possibility of lifting and conveying concrete long distances by the McMichael device. The very material would be likely to clog any long pipe line. Moreover the weight would be so great if conveyed as a mass by means of pressure from the rear, that too great pressure for safety would be required, if, indeed, enough could be applied where the distance was long and concrete, as in some cases, was lifted eighty feet. Various attempts to convey sand appear in a number of patents, and in the Goldie Patent No. 707,840, sand was ejected under railroad ties by steam pressure.

In the Farnham Patent No. 747,396, there was a sandblast apparatus shown where the sand was carried into the discharge pipe by gravity aided by compressed air and then ejected by an air blast nozzle entering the discharge pipe in the general direction thereof. The patent to Sticker No. 758,118 is likewise for a sandblast.

None of these patents, in my opinion, would teach anyone with imagination and talents short of a real inventive faculty to install a conveyor which would obviate the delay and expense of laying concrete by hand about the forms on which a tunnel is built. They were kinetic devices for floating light material. This was in substance so even in the case of the Goldie patent where dry cement, or cement mixed with sand or gravel, was ejected from a short hose by an air or steam waterblast. It is not accomplished by a heavy air pressure as in the patent in suit, but by air or steam velocity.

In the McMichael patent the second blast of compressed air at once cuts the concrete mass and shoves along the segment of concrete. The segment to be shoved along is of comparatively small weight and dimension so that it can be carried without clogging the discharge pipe. Mr. Kirkland, the chief engineer of the complainant, described this at page 9 of the record:

> "Q12. What is the effect as you have observed the operation of the machine of working the jet at the bottom directed at a line or an angle to the travel of the material in passing from the main vessel? A. The air breaks up or penetrates the mass as it goes toward the outlet, detaching portions of it, so that these portions will present a surface to the oncoming booster jet so that they may be forced through the pipe.
>
> "Q13. And are these batches solid or in detached portions? A. They come on in waves. Sometimes the successive portions of each batch follow each other so rapidly through the pipe that to the casual observer it would be almost impossible to tell whether it was a continuous stream or successive batches, but in long pipe lines, the successive batches are more pronounced and one observing them will note a wave,—that the material comes in waves.
>
> "Q14. How far has concrete been conveyed and placed in this apparatus from the apparatus itself? A. On the Twin Peaks tunnel in San Francisco we placed it at a distance of 4,900 feet from the machine."

Mr. Bateman, the superintendent of the well known contractors Booth & Flinn, confirmed the foregoing testimony as to the discharge of the concrete from the complainant's machine in sections.

Complainant's expert, Frederick Ray, said:

> "The net result of that is that it is possible to handle this concrete in slugs through a long pipe with a comparatively low pressure of air, that is a pressure of air around 100 pounds whereas to force it as a continuous stream through such a pipe, might take thousands of pounds or it might even be impossible, but certainly concrete can be forced through a certain length of pipe" (Minutes, p. 91).

Mr. Ray points out the portion of the specification which indicates that the inventor understood these advantages of his invention. McMichael says at page 2, lines 45 to 100 of the specification:

> "It will be observed that the upper air pipe 8 serves merely to supply air to the upper part of the chamber 1, the pressure of the air being uniformly applied over the entire upper surface of the mass. The lower pipe 10, however, serves to direct a jet of air moving at a considerable velocity directly against portions of the mass as they move toward and into the discharge duct. The two pipes thus act in very different ways, the upper pipe supplying air which acts by pressure and the lower pipe supplying air which acts by velocity. On account of the presence of large and small particles, and on account of the presence of water, a mass of concrete forming materials (whether completely mixed or not) is relatively compact and impervious to air, and on this account the upper air body acts by applying a uniform pressure to the entire upper mass surface and without any substantial penetration of the air itself to the interior of the mass. Air from the lower pipe 10 may force itself into the body of the mass, and the relatively small air jet acting upon the relatively large stream of

> outward moving materials directly engages with the submasses to push them along. This action of the two air bodies in my apparatus is to be contracted with the action of air in earlier devices which were so constructed that light materials such as grain or ashes could be caught in large moving air bodies and carried along in suspension with each particle separated from the others. One of the strongly marked and novel matters incident to this provision of the pipe 10 for introducing air directly into the discharge pipe, whether considered by itself or considered as supplemental to the agency such as the air from pipe 8 tending to effect downward and forward propulsion of the entire mass, is this, that the rapidly moving air from pipe 8 to pipe 10 acts upon sub-masses, successively of the general mass, at points near those where they enter the delivery pipe, the result being that the thorough commingling of the ingredients (rock pieces, sand, cement and water) well understood by the engineer to be essential to a perfect concrete, can be attained with great rapidity and with a perfect, uniform, distribution of the various ingredients as concerns the relative positions of all the component particles."

A device for transporting sand, ashes or coal even by means of an apparatus having a structural resemblance to complainant's device nearer than we find furnishes no anticipation of the patent and McMichael's conveyor when applied to concrete is not objectionable as a double use. Concrete Appliance Co. *v.* Meinken, 262 Fed. at p. 964. As Judge DENISON remarked in the foregoing case:

> "Certainly the art of loading coal into a ship for fuel is not the same art as that of distributing wet concrete to a building structure; nor is the analogy very close." See also Hobbs *v.* Beech, 180 U. S. at p. 389.

The appreciation by the inventor of the necessity of limiting the concrete to be conveyed to sections of moderate size and weight and his method by the second air jet of securing the cutting off of a segment from the mass of concrete and a propulsion of this segment through the discharge pipe involves invention of a high order. His device has displaced all other methods for rapidly and economically conveying, lifting and placing concrete at long distances from the initial source of supply and has been used in numerous great enterprises. In such circumstances his claims should be read broadly and given a fair range of equivalents. When so read I think the defendants plainly infringe.

The process claims are limited to no particular form of apparatus so that the contention that they are for a mere function seems without merit. Expanded Metal *v.* Bradford, 214 U. S. 366; Buffalo Forge Co. *v.* City of Buffalo, 255 Fed. 83.

I find claims 2, 4, 6, 17, 21, 22, 28, 34 and 35 valid and infringed, and grant an interlocutory decree to the complainant with the usual reference.

A. N. H.,
D. J.

Filed August 4, 1925.

CIRCUIT COURT OF APPEALS,

SECOND CIRCUIT.

CONCRETE MIXING & CONVEYING CO.,
Plaintiff-Appellee,

v.

ULEN CONTRACTING CORPORATION and SHANDAKEN TUNNEL CORPORATION,
Defendants-Appellants.

No. 332.

May 3, 1926.

APPEAL FROM THE DISTRICT COURT OF THE UNITED STATES FOR THE SOUTHERN DISTRICT OF NEW YORK.

JAMES L. STEUART, of New York City, for Appellants.

STEPHEN J. COX, of New York City, and WILLIAMS, BRADBURY, MCCALEB & HINKLE, of Chicago, Ill., for Appellee.

Before ROGERS, HOUGH and MACK, Circuit Judges.

Per Curiam. Decree (12 F. [2d] 929) affirmed.

#1177

UNITED STATES DISTRICT COURT,

SOUTHERN DISTRICT OF NEW YORK.

CONCRETE MIXING AND CONVEYING CO., *Complainant,*

against

POWERS-KENNEDY CONTRACTING CORPORATION and ANTHONY G. FLECK, *Defendants.*

E 30/294

STEPHEN J. COX, Solicitor and Counsel for Complainant.

JOHN D. MORGAN, Solicitor for Defendants; JOHN D. MORGAN and ALAN M. JOHNSON, Counsel.

AUGUSTUS N. HAND, District Judge:

This is an attempt to retry the issues determined in the case of Concrete Mixing & Conveying Co. *v.* Ulen Contracting Corporation, 12 Fed. (2d) 929; 931. The main reliance is upon a prior use which is alleged to have occurred over twenty years ago. No contemporary sketches are produced and the two witnesses attempt to describe from memory a mechanism which was not used except on two occasions. If such a practical device as that of the patent in suit had been employed, it is hardly likely that a contractor used to conducting large enterprises would not have sought a patent, or at least have taken advantage of something which in recent years has met with signal success. I am not satisfied that the defendants have established the prior use.

Aside from this new proof the defendants rely on the

old contention made in the earlier case that their device is purely kinetic. I do not regard it as theoretically probable that masses of concrete containing gravel stones of a diameter running to one and a half inches can be blown long distances by compressed air and I think the testimony of Mr. Ray that he could detect the passage of a series of slugs when he put his ear to the outlet pipe is the more probable testimony. Moreover, if air were floating the concrete it would be bound to pass through the pipe and the pressure would be so rapidly reduced that the heavier portions would be left in the pipe.

All of the claims were infringed until the Powers-Kennedy structure was impaired in the hope of avoiding infringement. After ceasing to introduce pressure behind the mass of concrete by means of closing the upper valve, it is true that some of the claims are not met, yet some of them are. There is undoubtedly a pressure behind the mass if defendants' machine far greater than ordinary air pressure and varying according to the freedom with which the air in the outlet tube is passing through it. As each slug was discharged, the pressure in the discharge pipe would lessen and the pressure behind the mass amounting to something like thirty pounds would force a further slug into the outlet. If this were not so, the high pressure through the discharge pipe would hold back the concrete.

As for the point raised that patents for kinetic devices are pertinent prior art, it is answered by the fact that neither the patent in suit nor the defendants' device is kinetic in operation.

The complainant is entitled to an interlocutory decree with the usual reference, the same to be settled on notice.

A. N. H.,
D. J.

November 8, 1926.

CIRCUIT COURT OF APPEALS,

SECOND CIRCUIT.

CONCRETE MIXING & CONVEYING CO. *v.* POWERS-KENNEDY CONTRACTING CORPORATION, *et al.*	No. 131.

July 17, 1928.

Appeal from the District Court of the United States for the Southern District of New York.

Suit by the Concrete Mixing & Conveying Company against the Powers-Kennedy Contracting Corporation and another for infringement of claims Nos. 2, 4, 6, 17, 21, 22, 28, 34, and 35 of McMichael patent, No. 1,127,660, granted February 9, 1915, for "methods of an apparatus for transporting and treating concrete." Defendant corporation was builder of the Queensboro Crosstown subway in Forty-second street, New York City, and used in this work a machine for conveying and placing concrete by compressed air, which is alleged to infringe the patent in suit. The individual defendant furnished the machine to the corporation. Decree for complainant, and defendants appeal. Affirmed.

Appeal from the District Court of the United States for the Southern District of New York.

JOHN D. MORGAN, of New York City (ALAN M. JOHNSON, of New York City, of counsel), for appellants.

STEPHEN J. COX, of New York City (WILLIAMS, BRADBURY, MCCALEB & HINKLE, of Chicago, Ill., of counsel), for appellee.

Before—MANTON, L. HAND, and SWAN, Circuit Judges.

SWAN, Circuit Judge. These same claims were held valid and infringed by the same District Judge in Concrete Mixing & Conveying Co. *v.* Ulen Contracting Corp., 12 F. (2d) 929. We affirmed that decree without opinion. 12 F. (2d) 931. A detailed description of the patent in suit need not be here repeated. Subsequently Judge BOURQUIN held the patent invalid in Concrete Mixing & Conveying Co. *v.* R. C. Storrie & Co. (D. C.) 23 F. (2d) 131. It is urged that, because of his decision and the case of Concrete Appliance Co. *v.* Gomery, 269 U. S. 177, 46 S. Ct. 42, 70 L. Ed. 222, as well as because of new matter introduced in this record, we should reconsider the validity of the patent.

The new matter is, of course, open to us and will be dealt with hereafter. The Supreme Court case, however, contains nothing, in our opinion, which casts doubt upon the correctness of the Ulen decision; in fact, it was before us when that decision was made. It holds, affirming the judgment of the Circuit Court of Appeals for the Third Circuit in 291 F. 486, that the Callahan patent, which covered an apparatus operating on the gravity principle for distributing "wet" concrete, was invalid, because it merely made use of known methods and appliances for the convenient handling of this recently accepted building material. The appellants' argument runs that, since the Supreme Court emphasizes that old apparatus used for distributing water, grain, or coal was readily adaptable for handling concrete, so the prior art patents for blowing

sand, grain, or grout, which in the Ulen case were held not to invalidate McMichael's patent, should now be deemed complete anticipations of it. But the Gomery decision does not rest merely on the assumption that apparatus for coal and grain could have been used for wet concrete without inventive thought. Adaptations of old carriers to handle concrete were shown to have been frequently made for several years before the application for the patent there in suit. The idea was already of common knowledge and was being applied generally. Therefore Callahan's adaptation was not an invention.

[1] But that is a very different situation from the one before us in the Ulen case, where nobody before McMichael had ever used a pneumatic apparatus to transport concrete. The Warren and Farnham sand-blast machines (patents No. 671,303 and No. 747,396) could not have been so used without increasing the size of the discharge pipes and cutting off the sand-blast nozzles. To do this was to make a new machine, and one who thought of doing it would have had a new and inventive idea; that is, that of blowing concrete, which had not been done before. When that is so, the physical change in the apparatus need be very little to sustain a patent. The only reason why a new one is not patentable is that the law grants patents only for new things, not for new ideas. Similarly Goldie's machine (patent No. 707,840) for blowing cement could not, so far as appears, have been used as it stood for concrete, and never was so used. The Supreme Court case does not require us to reconsider the validity of McMichael's patent.

[2] In the suit against Storrie & Co., Judge Bourquin seems to have relied to some extent, at least, upon pat-

ents which were not in the record in the Ulen case and are not now before us. But whatever the court as now constituted might think of the correctness of our former ruling, it is our duty to follow it, unless new evidence raises questions of the patent's validity not previously considered. See Cortelyou *v.* Charles E. Johnson & Co., 145 F. 933, 934 (C. C. A. 2); Crier *v.* Innes, 170 F. 324 (C. C. A. 2).

The new evidence of the patent art upon which appellants rely to distinguish the Ulen decision includes two patents granted in 1872 to W. H. Smith. No. 122,497 is for an improvement in concrete pavements and claims concrete "prepared for use in a liquid or semiliquid condition, capable of flowing in pipes and running into molds." No. 122,498 discloses a machine for mixing liquid concrete and conveying it by a discharge pipe from the mixer to the spot where it is to be laid. The concrete is to flow through the discharge pipe by gravity, or, as an alternative, after flowing by gravity through a small winding passage into a chamber, *F*, is to be forced into the discharge pipe by the pressure of steam or compressed air admitted into the chamber above the mass of the concrete. The chamber has a flat bottom of large area relative to the size of the discharge pipe, the outlet of which opens into the center of the bottom. While this machine discloses the idea of forcing concrete through a pipe by compressed air, whether it was practically operable may well be doubted. It would seem that a large quantity of the concrete, or at least the stones of which it is partly composed, would necessarily accumulate upon the flat bottom of the chamber. In any event, it was very different from McMichael's device, which injects air into the concrete at its entrance into the discharge outlet. It cannot be regarded as an anticipation.

Nor can the argument that the patent in suit is limited to "dry" concrete, as distinguished from defendants' "wet" concrete, prevail. It declares on page 3, line 55: "It is equally well adapted for the treating and handling of a mass containing a considerable excess of water, in case such an excess is for any reason found desirable." The other new references in the Patent Office (Canniff, McIlvrid Beach, and Davidson) we regard as less persuasive than those which were passed upon in the Ulen case.

[3, 4] The new defense of prior use was held by the District Court not sufficiently proved, and with this we agree. This use was of a machine which Artingstall and Fanning said that they saw laying a concrete floor in 1903, subsequently changing the date to 1904. That was 22 years before they gave their testimony, and there was no documentary corroboration of any kind. It is true that in 1918 Artingstall described very generally before a meeting of engineers that this process was practiced in 1903, but that cannot be deemed documentary corroboration. Fanning says the machine was also used in one section of a tunnel in Chicago in 1903, and was apparently abandoned as too expensive. It is one thing to say that a continuous use to date may be found on oral testimony to have started at a given time, and quite another to say that such testimony is enough when it describes only a casual use, abandoned thereafter, and never entering into the art until after the patent in suit was applied for, an interval of nearly 3 years. Such casual and abandoned uses do not contribute to the stock of knowledge which makes up the art. If we may invalidate a patent upon such prior uses, so proved, no patent would be safe. A prior use, such as constitutes an anticipation, was not proven with the degree of certainty which the courts re-

quire. See Deering *v.* Winona Harvester Works, 155 U. S. 286, 300, 15 S. Ct. 118, 39 L. Ed. 153; Internat. Cork Co. *v.* New Process Cork Co., 6 F. (2d) 420, 424 (C. C. A. 2); De Laski & Thropp Co. *v.* Fisk Rubber Co., 203 F. 986 (C. C. A. 1).

Much argument has been expended in an effort to establish just how the plaintiff's and defendants' machines operate in sending the concrete through the discharge pipe—the plaintiff contending that both discharge it in a succession of slugs or pistons, while the defendants claim that both, or at least theirs, operate kinetically and float the materials in the air, just as sand or grain is carried in floatation. To us the dispute seems irrelevant. The patent says nothing which commits the patentee to the slug method of operation. The theory is built upon the use of the phrase "submasses," as in lines 72 and 89, page 2, where it is said that the lower air jet "engages with the submasses to push them along." But this cannot mean solid "slugs," for on the same page, lines 92-99, the effect is said to be thoroughly to commingle all the ingredients and insure a better mix. Again, at line 113, page 3: "The delivery pipe itself becomes a mixing chamber, wherein pneumatic mixing is effected or continued." And see, also, line 86, page 3. Such statements necessarily forbid the notion of solid slugs. All that is meant by "submasses" is the portions that descend into the discharge pipe, *14*, and by their descent are separated from the general mass in the main chamber *1*. It is a synonym for "portions of the mass as they move toward and into the discharge duct." Line 53, page 2.

Moreover, several of the claims in suit are for the apparatus, or machine, and if they are infringed it is enough for the purposes of this suit, whether the machine dis-

charges its concrete kinetically or in successive slugs. Neither theory is entirely persuasive. Artingstall's opinion that the inner portion would be blown ahead of that at the circumference of the pipe, which would be retarded by friction, seems sensible. On the other hand, it is difficult to believe that particles of the mixture, including stones of an inch and half in diameter, are floated independently in the air, as sand or grain is blown. Ray's testimony regarding the stones effectively disposes of that possibility under any such pressures as are used. It would seem to us that the mass as a whole must block the passage of air, forming an obstruction which yields at different points, because of its uneven power of resistance, and that the heavier stones must be carried by the impact and momentum and cohesion of the lighter substances, the whole mass going forward in a constantly agitated mixed stream, just as McMichael describes. But whether the concrete goes forward as we imagine, or in some other manner, there is no sufficient reason to suppose that defendants' machine does not operate in the same manner as plaintiff's, whatever that manner may be. The District Court on conflicting evidence found infringement of the method claims (4 and 6), as well as of the apparatus claims. We are not convinced that this finding was wrong.

Apparently the "slug" theory was brought into the argument because it was thought necessary to distinguish in this way from Farnham, Warren, and Goldie. We have already suggested that those machines would require modifications to operate with concrete containing stones an inch and a half in diameter. Whether this was the ground adopted to distinguish them in the Ulen case, or whether the court as then constituted accepted the slug theory, does not appear, and is not important. On some

ground we distinguished the prior art, and sustained the validity of the patent, and that ruling we should follow, until its error is pointed out by higher authority.

It is urged that the defendants' structure and operation are different, in that (1) they do not use "dry," air-impervious concrete; (2) they do not put compressed air pressure behind the concrete mass; (3) they do not use a second compressed air stream at the bottom of the chamber, to break the dry concrete into slugs; and (4) they do not push the concrete through the delivery pipe in "slugs" by air pressure from behind.

We have already alluded to a portion of the specifications which indicates that the patent is not limited to "dry" concrete. It is true that the defendants' machine in its present form, whether or not this was so when the suit was started, is operated without an air inlet into the discharge chamber above the mass of concrete. But it is admitted by defendants' witnesses that, as soon as air is injected into the discharge pipe, it is forced through the concrete and establishes a pressure in the chamber above. Mr. Ray, plaintiff's expert, testified that, because of this, the operation without the top air inlet is identically the same for all practical purposes as with the top inlet. While the claims which specify an upper air inlet (e. g., claims 2, 17, 34, and 35) might not be infringed by a machine which omits it, the other claims in suit make no reference to the upper air inlet. We think there is clearly infringement of claims 4, 6, 21, 22, and 28. The final decree appealed from awards money damages, and is sustainable on the infringement of these claims, even though other claims in suit were not infringed by the machine used by defendants at the time of the trial.

The decree is accordingly affirmed.

MANTON, Circuit Judge dissents.

DISTRICT COURT, WESTERN DISTRICT, WASHINGTON,

NORTHERN DIVISION.

CONCRETE MIXING & CONVEYING CO. v. R. C. STORRIE & CO.	No. 394.

November 12, 1927.

In Equity. Suit by the Concrete Mixing & Conveying Company against R. C. Storrie & Co. Decree for defendant.

LYNN A. WILLIAMS, CLIFFORD C. BRADBURY and ALBERT G. MCCALEB, all of Chicago, Ill., and BATTLE, HULBERT & HELSELL, of Seattle, Wash., for Plaintiff.

CHARLES E. TOWNSEND, of San Francisco, Cal. (S. F. CHADWICK, of Seattle, Wash., and WILLIAM A. LOFTUS, of San Francisco, Cal., of counsel), for Defendant.

BOURQUIN, District Judge:

This infringement suit involves claims 1, 2, 17, 18, 24, 29, 34 and 35 of McMichael's patent 1,127,660, granted February 9, 1915, on application filed January 14, 1907. The usual defenses are interposed.

The answer alleges there are 10,000 patents in the art, cites 100, and there are an extraordinary number of references. For this, palliation is attempted by semi-

apologetic "inability to forecast how they may be judged by the court," which may be taken as a courteous expression of doubt of the court's comprehension, or of fond hope that it may be deluded. Of the claims in suit, 2, 17, 34, and 35 were held valid in Concrete, etc., Co. *v.* Corp. (D. C.) 12 F. (2d) 929, Id. (C. C. A.) 12 F. (2d) 931. The record of that case differs from this at bar.

In the beginning McMichael's application was limited to "improvements in apparatus for transporting granular and plastic building material, such as sand, plaster, mortar, and concrete." Then, as now, the apparatus consisted of an upright cylindrical container, with hopper bottom terminating in a discharge pipe to the hopper connected by a U-bend. Two separately controlled air pipes connected with the container; one at the top, the other near the bottom and pointing downward. The specification in description of function and operation stated that air "under any desired pressure," admitted through the upper pipe and over the material, by its pressure would force the latter downward and through the discharge pipe; that as the material passed through the U-bend it would be more or less tightly packed, which would tend to "hold the water and the *granular* material with which it is mixed intact, so that the tendency to blow the water out of the material is eliminated"; that "to loosen the material at the lower end of the hopper, should the same become packed, I provide the additional air pipe adapted to discharge air through the material."

Of six claims, one only related to the lower air and as follows: "An air pipe to deliver air at the lower end of the hopper, substantially as described." McMichael's prosecution of the application was dilatory to the limit of time, once incurring forfeiture. After more than two

years, interference was declared with Leake. The latter's application had been filed October 7, 1907, and was for "improvements in a cement mixing and distributing system * * * for preparing a concrete mixture and delivering it." Leake's apparatus contained all of McMichael's, and more, but without the U-bend. Its air pipes were of single control, and that for the lower air terminated in three nozzles opposed in one plane. In function and operation Leake's specification stated that the upper air would force the concrete down past the said nozzles, "where it can be detached in portions and blown" into and through the discharge pipe.

Several of his claims were variations of this following, viz.: "The method of conducting plastic material through a closed conduit, which consists in introducing the plastic material in a mass in a chamber connected to said conduit, introducing relatively compressed air behind the whole mass and behind a front portion thereof, and thereby detaching successive portions and driving them from the chamber into the conduit and along the latter."

For the purposes of interference, to McMichael the Commissioner suggested four claims, including the claim aforesaid verbatim from Leake, which McMichael promptly accepted as substitutes for his six, thereupon canceled by him. The interference was not concluded, for that plaintiff became assignee of both applications. Ultimately patents were granted for both, Leake's, 1,215,558, upon February 13, 1917; but, whereas McMichael's contains the aforesaid claim verbatim from Leake and several like, but of some difference, in phraseology, Leake's, curiously enough, changed the form theretofore his own, but retained the substance. In the meantime Bliss, of Washington, had become attorney for both applications,

and January 24, 1911, and later in behalf of McMichael, he filed very extensive amendments of specification and claims, increasing the latter to 35.

In the course of these proceedings in McMichael (to which the comment in Greenwalt's Case [D. C.] 3 F. [2d] 660, is applicable), the invention is expanded to include method, as well as apparatus, and by exclusion is restricted to only concrete. Although the amended specification included the function originally ascribed to the lower air as aforesaid, it also declared that McMichael had "found" that the lower air is "very effective in aiding the passage of the material into and through" the discharge pipe; that, "in cases where the friction" by the mass driven down by the upper air "is serious," the lower air "gives to the material the velocity which is needed to carry it to the remote point of delivery"; that it "acts upon the submasses successively, * * * the result being thorough commingling of the ingredients," for that "the delivery pipe itself becomes a mixing chamber," but therein "the components are not driven apart or carried to different distances because of differences in specific gravity."

The amendments so far ignore the U-bend, so prominent in the original application and claimed eo nomine, that its function in respect to granular material in the original claimed is eliminated, along with all reference to granular material itself, and in only two or more claims of the patent is it indicated by the statement that the discharge pipe is "provided with a bend," without any function or effect ascribed to it, save that "the material will be more or less tightly packed as it is directed therethrough." The latter standing alone, is not beneficial, and, because detrimental, the U-bend in practice is no longer used or incorporated in the apparatus.

The amended specification also stated that the upper air is the primary force, the pressure of which "compels the entire mass to escape into the pipe with great rapidity and force," thence assisted in discharge by the lower air. In practice, the air pressure is maintained at 100 pounds, and the container holds about two cubic yards or less of concrete. The claims in issue are for apparatus and method in their various elements.

The charge of infringement against defendants is predicated upon their use of Hackley's apparatus, patent 1,619,297 of 1927. This latter is an oblong container, ovoid in cross-section, without upper air pipes, but having four lower air pipes. The discharge pipe is at the bottom and one end, and the disposition of the lower air pipes is entrance at the bottom, pointing towards the discharge pipe, one opening into the entrance of the latter, one opening into the opposite end of the container, and between them open the other two and equalizing the distances between all of them in order. In operation the container filled, the air is first admitted through the pipe opening in the entrance to the discharge pipe, and thereafter through the others progressively to the rear as the concrete subsiding in front of them is driven out through the discharge pipe.

Plaintiff's contentions as they appear in its brief are that McMichael invented (1) the hopper-bottomed container; (2) application of compressed air to convey concrete; and (3) the method of the lower air to detach portions of the concrete, which alternating with like slugs of air, are driven through the discharge pipe.

In respect to the first, containers with hopper bottoms to direct the flow of their contents preceded McMichael for time so long, the memory of man runneth not to the contrary.

In respect to the second, long prior to McMichael were many devices more or less like his, in which the art of compressed air to convey mobile substances was developed and used. Whether or not it had yet been applied to concrete, to the latter is but a new and analogous use, devoid of novelty or invention. The affinity and analogy of concrete to other mobile substances, commonly thus conveyed, was recognized by McMichael himself in his association of it with sand and other granular materials in his original application. His subsequent exclusion of all but concrete of those so associated is suggestive of preparation for litigation to come. To extend the art to concrete when it came into extensive use, not invention, but only common sense, to say nothing of ordinary mechanical skill to be expected in the progress of the art, was required. In principle, it differs none from like extension of the use of a wheelbarrow to convey concrete. For a principle, appliance and method, applied to substances in general, will naturally embrace any new substance, even as a statute relating to a genus will open to include newly created species.

The instant case cannot be distinguished in principle from Concrete, etc., Co. *v.* Gomery, 269 U. S. 177, 46 S. Ct. 42, 70 L. Ed. 222, wherein it is held that appliances and method of conveying mobile substances by gravity extended to concrete when it came into use, and a subsequent patent to thus convey concrete is invalid. For gravity, substitute compressed air, and that case "reads on" this.

Moreover, prior to McMichael were patents for appliances and methods to convey concrete by the agency of compressed air. Amongst these are Smith, 122,498 of 1872, Cannif, 873,345 of 1906, and McIlvrid, 958,421 of

1905. In so far as it is argued that some of these are for grout, and will not function with less liquid concrete, the answer is they can be used for any practical flowable concrete, and they have been. They are of the simplicity of McMichael's, and even average intelligence will perceive their ability to operate successfully.

The variety of concrete is not material, save in respect to the mere incidentals of pressure and size of container, load, and discharge conduit. In any apparatus, including McMichael, the concrete must be flowable in quality, and the pressure in due proportion to the weight and friction of the load ahead of it. To suit these incidentals to circumstances is mechanical, and not invention. And this is true, be the container capacity or load discharged in one slug (continuous stream) or in several shorter slugs.

Adverting to the third of plaintiff's contentions, the first observation is that the slug theory is not proven and is untenable. With 100 pounds of air from the primary upper air pipe behind it, the concrete stands not on the order of its going, but goes at once, and through the discharge pipe "with great rapidity and speed." In these circumstances, the upper air does not halt until the lower air has neatly cut off and removed a slug of concrete, nor does the lower air, of like pressure from the common reservoir, halt until within the field of its activity has been projected sufficient concrete to form any slug.

In the nature of things, the patent now stipulating what the application originally did not, viz. simultaneous and constant application of both upper and lower air, the lower air can but some disintegrate and aerate the mass of concrete as it rushes by, and thereby lubricate, lighten, and assist its flow through the conduit. The lower air

but joins and flows in the same direction and with the stream of concrete. It may be that, if the upper and lower air were alternately applied, some quasi slug action would follow, akin to the action of Saunders' "air-lift pump," patent 597,023 of 1896, but not when simultaneously applied as here.

Taking McMichael as it is, to expect or secure movement of the concrete in alternate slugs of concrete and air would do violence to the laws of nature and confound reason. It cannot be done. Moreover, the proof is clear, by plaintiff's witness as by defendant's, and some who are interested in plaintiff, that the concrete discharges in a continuous aerated or mixed stream of concrete and air, and not at all in any slug formation.

As between Wilkin's test, discrediting the slug theory, and Ray's, supporting it, the former's is calculated to more nearly approach accuracy. Evidently McMichael "found" the basis of the slug theory in Leake, and his claim aforesaid by the Commissioner presented to and adopted by McMichael. Until then McMichael did not suggest that the lower air had any such function or result; until then, he limited the lower air in some undefined volume and pressure to only some time use if the material chanced to pack in the hopper, to blow through the material and loosen it, in function, object, and result, nothing but a convenient substitute for a crowbar.

To thereafter broaden his claims, to embrace the idea and method of Leake, avails McMichael nothing. See Hobbs *v.* Beach, 180 U. S. 396, 21 S. Ct. 409, 45 L. Ed. 586. The impression irresistibly created by the facts is that, after knowledge of Leake, all McMichael's amendments were to include Leake's idea and method, and to exclude from McMichael's original application all possible that

was inconsistent therewith. Be that as it may, that in McMichael as in Leake the lower air serves a useful purpose clearly appears; but, as between them, in its present aspect in McMichael it is the idea and method of Leake, and not McMichael, in that, prior to McMichael, Leake had conceived the idea, and in 1905 in New Orleans had publicly and successfully employed it in concrete building operations.

For, despite Leake's reluctance to testify against his assignee, the plaintiff, the evidence in quality and quantity inspires confidence and constrains conviction of the truth of the fact and beyond reasonable doubt. Neither of them, however, is inventor of the thing. Before them, it was old in the art.

Amongst many patents asserted to be anticipatory of the idea and use of the lower air, but three need be considered. Of these, the first and second are Duckham's English patents 4,100 of 1875, and 15,348 of 1885. They are for apparatus and method to convey the spoil or mud excavated in dredging. To that end are employed a container for the material, compressed air above or behind it to drive it down to and through the discharge pipe, and like air through several nozzles in the bottom and pointing towards the discharge pipe, "to keep the mud agitated and prevent any thick deposit in the tank."

The third is Kolsche's German patent, 18,394 of 1882, for "apparatus for conveying substances, slack, sandy, or granular material, by means of a current of air." The apparatus is like McMichael's, without the U-bend; that is, it is an upright cylindrical container, with hopper bottom terminating in a discharge pipe. Compressed air is applied above or behind the material in the container, to force it down and into the discharge pipe, and at that

point like air is admitted to assist in driving the material through the pipe.

Without any change, perhaps, save adjustments to circumstances as always, Kolsche's apparatus and method will transport concrete as does McMichael's. Kolsche could rightfully devote it to that analogous use. It follows that McMichael's essentially unchanged application of Kolsche to analogous materials and uses, is not invention. In principle, essential design, function, operation, object, and result, Kolsche and McMichael are one and the same. Either reads on the other. Kolsche, if later and devoted to concrete, might infringe McMichael, and by the same token, being earlier, he anticipates him.

The same is true of Duckham, especially in respect to McMichael's application originally, and their common use of the lower air to prevent or relieve packing of the material. It must be remembered that the test of "analogous uses" is not from whence comes and where goes the materials, to what ultimate end or use, or their nature, but is the *method* of conveyance. Although fertilizer and flour be unlike, and for ends as wide apart as the poles, a wheelbarrow conveying both is devoted to analogous uses, in patent law.

In so far as the third contention counts upon nonseparation of the components in the discharge pipe, this result is imputed to non-existent slug action, and is inconsistent with the claim that the ingredients continue in active mixation throughout the pipe. But note that in the original application this function of the U-bend was in relation to *granular* material only, and, with the latter's elimination from the patent, the function was likewise eliminated. It may be added that the nonseparation of components of *plastic* materials is due to that mutual

cohesiveness which granular materials do not possess. All the elements of McMichael are old. It does not appear that he discovered, invented, combined, or made anything new.

That serves to dispose of the case, and the defense of noninfringement needs no more consideration than to note that Hackley's apparatus is a different combination than McMichael's, has no upright cylindrical hopper bottomed container, is without the U-bend, employs no upper air, save some incidental back pressure, does not discharge slug fashion, as claimed is the invention of McMichael, and so does not infringe. Likewise of the defense of insufficient supplemental oath to McMichael. It is noted that this was required by the Commissioner, February 18, 1911, was supplied by Bliss, February 17, 1912, purports to have been executed by McMichael, of Toledo, before Bliss, Jr., in Chicago, March 6, 1911, discloses in some lettering and spelling of McMichael's signature, striking differences from his signature to his application, applies to only part of the claims, and that McMichael some time died.

The finding and conclusion are that the claims in suit are void for want of novelty and invention.

Decree accordingly.

IN THE

UNITED STATES CIRCUIT COURT OF APPEALS,

FOR THE NINTH CIRCUIT.

CONCRETE MIXING AND CONVEYING COMPANY (a Corporation), *Appellant*, v. R. C. STORRIE & COMPANY (a Partnership), *Appellee*.	No. 5425.

LYNN A. WILLIAMS, C. C. BRADBURY and A. G. McCALEB, of Chicago, Illinois, Attorneys for Plaintiff-Appellant.

CHAS. E. TOWNSEND of San Francisco, Attorney for Defendant.

Before GILBERT, RUDKIN and DIETRICH, Circuit Judges.

The appellant brought a suit alleging infringement of Claims 1, 2, 17, 18, 21, 29 and 35 of Patent No. 1,127,660, issued February 9, 1915, to John H. McMichael, assignor, for a "Method of, and an apparatus for, transporting and treating concrete." The application was filed January 14, 1907, and was pending in the Patent Office more than eight years. As originally filed, the application was for "Improvements in apparatus for transporting granular and plastic building material, such as sand, plaster, mortar and concrete." The apparatus, as patented, consists of a vertical closed cylinder, tapering toward the base, to discharge into a U-bend connected with a conduit

having an air nozzle at the top of the cylinder and an air nozzle near the entrance to the U-bend, each separately controlled, under pressure of which the concrete material in the chamber is forced through the conduit and carried to the point where it is to be deposited. It was claimed that the appellee infringed by use of the device as described in Letters Patent No. 1,619,297, issued March 1, 1927, to Roy C. Hackley, for a "Concrete Gun," which consists of a horizontally disposed oblong tank, ovoid in cross section, with the narrow portion disposed downwardly and with a tapering nozzle to which is connected a discharge pipe for conveying the concrete. Air pressure is furnished by four air supply pipes extending within and along the bottom of the container and terminated at different points intermediate the ends of the tank. Into the pipe which terminates nearest the exit the air is first admitted and thereafter into the others in their order until all the concrete is driven into the discharge pipe. In the specifications it is said that the pipe which terminates near the nozzle insures that pressure shall always be present there directing the concrete into the discharge pipe, and that the remaining pipes serve to advance the body of concrete along the bottom of the tank until the tank is completely emptied. The containers in both the appellant's and the appellee's patents are filled with concrete through openings in the top which are then closed by air-tight lids. At the close of the trial the court below found the appellant's patent anticipated and invalid, and that, even conceding its validity, it had not been infringed by the appellee (Concrete Mixing & Conveying Co. *v.* R. C. Storrie & Co., 23 Fed. 2d 131).

GILBERT, Circuit Judge, after stating the facts:

In the prior art were shown numerous patents involv-

ing the use of compressed air for conveying through pipes a wide variety of materials such as concrete, crude oil, dredge spoil, sand and water, grain, molten sulphur, etc. As to all prior patents the appellant insists that none is anticipatory of its combination, for that they all lack the salient feature thereof, the arch-breaking nozzle or anything that could exercise the function thereof. Of the prior patents we find it necessary to refer particularly to but three, the patent to Smith, No. 122,498, of January 2, 1872, and the English patents to Duckham, one, No. 4,400, of 1875, and one, No. 15,348, of 1885. The Smith patent was for "An improvement in the manufacture of concrete pavements and machinery for same." The specifications described the apparatus as specially adapted to the manufacture and convection of concrete composition through pipes so as to set quickly upon reaching its destination and form a solid mass of artificial stone, and uncontradicted testimony was given of the successful use of the Smith machine in conveying concrete through a pipe by compressed air. The device contained all the features of the appellant's patent except the nozzle for admission of air near the point of exit. The Duckham patent of 1875 was for improvements in discharging mud or soil from dredges. The mud was received in tanks capable of being closed air-tight, with the exception of inlets for the compressed air and an outlet for the spoils. In the specifications Duckham said, "I prefer to inject compressed air * * * through a number of nozzles at the bottom of the tank, said nozzles being pointed toward the outlet. By this means the particles are prohibited from settling and are kept in suspension until the whole is expelled from the tank. Compressed air may, moreover, be admitted into the discharge pipe with the same object." We

think it indisputable that Duckham, in prescribing the use of pipes for the admission of compressed air in the tank, the same distributed along the bottom of the tank and one of them locatable at the exit, presented the use of all that is included in the appellant's combination, save and except the U-bend, an exception which is negligible so far as the present litigation is concerned, and if there is distinction in the fact that Duckham used no air pressure above the contents of the tank and thus omitted one of the features of the appellant's combination, that feature is also absent from the Hackley combination used by the appellee. But the appellant asserts that Duckham was working with a material which would flow with facility and that the nozzles which he used were intended for no other purpose than to stir up the mud in the bottom of the tank. It is true that Duckham was engaged in moving a material quite different from concrete, but that fact is not of importance on a question of anticipation (Concrete Appliances Co. *v.* Gomery, 269 U. S. 177). In his second patent of December 14, 1885, Duckham says: "The mud or spoil was received directly from the dredging buckets in a tank or tanks, whence it was expelled through outlet pipes by means of compressed air admitted at the upper part of the tank, assisted by compressed air and water injected at the bottom of the tank to agitate the mud and prevent thick deposit," and, if we may refer to the Engineering Publication Minutes of the Proceedings of the Institution of Civil Engineers (1887), in evidence here, we find that Duckham stated that "with clay or stiff mud, if the nozzles of the air-injection pipes were too small, the compressed air, instead of driving out the material, simply pierced holes through it, escaping through the discharge pipe and carrying along with it all

the liquid and thin material in the tanks. This defect was easily rectified by rearranging and increasing the size of the large injection nozzles, and the apparatus now gives most satisfactory results."

It is assigned as error that the trial court found that Leake had made the invention in issue prior to the date of McMichael's application. In the opinion of the trial court it is said, "Prior to McMichael, Leake had conceived the idea and in 1905 in New Orleans had publicly and successfully employed it in concrete building operations, for despite Leake's reluctance to testify against his assignee, the plaintiff, the evidence, in quality and quantity, inspires confidence and constrains conviction of the truth of the fact, and beyond reasonable doubt." The McMichael application was filed January 14, 1907, and nine months later, on October 7, 1907, was filed Leake's application, which presented everything contained in the McMichael application with the exception of the U-bend. Leake said: "The object of my invention is to provide a method and apparatus for preparing a concrete mixture and delivering it while in a plastic condition to the place where it is to be utilized. Another object of my invention is to move plastic concrete from one place to another by means of air pressure." On May 12, 1909, interference was declared between McMichael and Leake and Wm. W. Darley, who had applied for a patent on "apparatus for handling ashes and other materials." Leake and Darley each filed an affidavit setting forth their respective dates of conception and reduction to practice. Darley was dismissed from the interference as being found subsequent in time to the others. Leake's affidavit stated that he "conceived the invention set forth in the declaration of interference on or about the 1st day of February, 1905,

that he first made drawings of the invention on or about the 1st day of March, 1905, and first explained the invention to others on or about the 1st day of June, 1905, that he first embodied his invention in a full-sized machine, which was completed on or about the 1st day of September, 1905, and that on or about the 1st day of September, 1905, the said machine was first successfully operated in the City of New Orleans, and State of Louisiana, and that he has since made and used other machines embodying the same invention." Before the interference was declared it was represented on behalf of Leake's application that he had done a large amount of experimental work in connection with his invention. "He has successfully moved concrete from the place where it is mixed to the place where it is to be used, by means of air pressure, using the apparatus disclosed in his application." Again it was said: "He has given considerable time and thought to this matter and has actually constructed several plants where this is done. Their operation is highly successful and appears to be a decided improvement over previously known methods for handling plastic concrete." But no showing was made or evidence offered to carry the McMichael invention further back than the date of his application nor was any proceeding had in the Patent Office upon his application until 19 months thereafter when, for a consideration of $6,000, Leake assigned his application to McMichael's attorney, who later assigned it to the appellant, which had also become the owner of the McMichael application. The long period of inaction and silence on the part of McMichael, unexplained as it is, together with the payment to Leake of so large a sum of money as $6,000, payable, as it was, in annual installments until March 1, 1920, is strongly suggestive of the

inference that McMichael recognized the priority of Leake's invention and could furnish no proof to the contrary. As a witness for the appellee in the court below, Leake testified that he conceived the idea of moving concrete as set forth in his application, about February 1, 1905; that he made a container in which to put the concrete and by the means of an air pipe extending therefrom shot it up on top of a powerhouse then being constructed in New Orleans; that when the air pressure was applied, the concrete all went up and landed on there; that later he built a commercial apparatus in Chicago and operated it in conveying dry cinders to the fifth floor of a building. His testimony, together with his preliminary statement, carried the date of his invention back of that of McMichael and showed an actual reduction to practice by Leake as early as 1905. We find no ground for disturbing the trial court's conclusion. The question at issue was, which of two applicants for patent was the inventor? Both presented drawings and plans of the same invention. Leake furnished evidence of the time, place and circumstances of the reduction of his invention to practice. There was no denial of the truth of his testimony. In *Armstrong* v. *De Forest Radio Telephone & Tel. Co.*, 280 Fed. 584, 590, it was said: "While it is true that uncorroborated testimony of an inventor is to be accepted with caution * * * yet there is no rule of law that requires the rejection of the uncorroborated testimony of an inventor as to the date of its conception. The Court must be satisfied as to the fact of the demonstration and that the conception was complete." In *Reed* v. *Cutter*, 1 Story 590, 596, Mr. Justice STORY said: "If the invention is effected and put into actual use by the first and original inventor, it is of no consequence whether the in-

vention is extensively known or used, or whether the knowledge or use thereof is limited to a few persons, or even to the first inventor himself." So in *C. F. Mueller Co.* v. *A. Seregas Sons*, 12 Fed. (2d) 517, 518, considering the question which of two was the real inventor, Judge HOUGH said: "The question of invention as between Mueller and Wild is really only one of veracity. There are no presumptions or artificial rules regulating such an investigation, and the evidence of one witness may be sufficient," citing *Thompkins* v. *N. Y. Woven Wire, etc., Co.*, 159 Fed. 133. That the testimony of one witness may be sufficient in such a case is held in *Mayor* v. *A. & H. G. Mutschler*, 248 Fed. 911, 914, where it was said that one witness may suffice if the surrounding circumstances are confirmatory.

But it is insisted that neither Leake's combination nor that of Duckham can operate successfully, as does that of the appellant, to convey concrete and pack it at the place where delivered more effectively than could be done by hand tamping, a result which, it is said, is accomplished by the appellant's delivery of the concrete with velocity and momentum in successive slugs or parcels. The tiral judge held that the slug theory is not proven and is untenable, and said, "It may be that if the upper and lower air were alternately applied some quasi-slug action will follow, akin to the action of Saunders' air-lift pump, Patent 597,123 of 1896, but not when simultaneously applied, as here." There was no suggestion of a slug theory in the original application of McMichael, but when the patent was issued, more than eight years later, it was stated in the specifications that the lower air pipe adjacent to the discharge duct "serves the double function of preventing choking in the entrance to the delivery pipe

and of supplying air under pressure in sharp jets directly to the delivery pipe itself." The slug theory was obviously adopted, from expressions found in Leake's application in which he proposed the use of a combination consisting of two tanks discharging into a single conduit alternately, by means of which the main body of concrete "can be detached in portions and blown into the conduit and driven along the same." Such a result might be accomplished by the use of his combination, but it is not apparent that any slug action occurs in the use of either the McMichael or the Hackley combination. In neither is there intermittent pressure or "sharp jets" of air and in both there must necessarily be exerted a steady and continuous force from the upper and the lower air nozzles combining to drive forward the concrete and deliver it in a practically unbroken stream, and if, indeed, a temporary obstruction of material at the exit should occur it is not believed that its release would result in a slug action or a constantly intermittent propulsion of concrete, or that if such an intermittent action could in practice be accomplished any advantage would thereby be attained. The decided weight of the testimony is to the contrary. It is stated in the brief of appellant's counsel that the appellee's engineer, Hackley, admitted that the appellant's apparatus "operates on the slug principle." We do not so understand Hackley's testimony. What he said was that the air mixes with the concrete and as such prevents it from discharging as a solid mass, and that "the mass is broken up into portions which are driven ahead under high velocity by the air discharging from the pipe 34, this being of considerable importance as it positively prevents choking or blocking up of the apparatus." Hackley was speaking only of such breaking up of the discharging

column as resulted from the admixture of air and concrete in the discharge pipe. He testified to having had experience in using the applicant's combination and that in so using it the concrete issued in a continuous stream and that in the use of his own device the concrete came out in a continuous stream mixed with the air, that the speed of the discharge thereof could be controlled by the operation of the valves and in use was so controlled as to make it as slow as possible for the purpose of preventing separation of the concrete and to prevent wear on the pipes, and that when the concrete is discharged it flows by gravity down the sides. Brock, a witness for the appellant, testified that in the Skagit tunnel the concrete, when it came out through the 8-inch discharge pipe, "flowed down gently like over both sides." And such was the testimony of all the witnesses who observed the operation of the device in the Skagit tunnel. In fact, there is but one witness for the slug theory, Ray, a consulting engineer and patent expert. He testified, in answer to the question: "How many slugs moved in a second?" "There may be twenty or thirty come out in a second. Then there will be a lapse of a second or two when none will pass through. Then there will generally be a group of two or more in the next quarter second. * * * It is impossible for the naked eye to detect the individual slugs of material issuing from the discharge end of the duct." Wilkins, an electrical engineer, an expert, testified, on behalf of the appellee, that he was familiar with the apparatus in controversy and had made tests in its operation, that in the use thereof there were no slugs or plugs such as Ray had testified to, that it was a continuous flow of the mixture of air and concrete, and that it issued from the discharge pipe without spurts or

dumps. The court below credited the testimony of Wilkins as against Ray, and we think the court was supported by the overwhelming weight of the testimony.

We think that the slug theory, when all is said, has no bearing upon the merits of the present controversy, for whether or not the appellant's apparatus operated to deliver concrete in slugs or sections, it is very clear that the Hackley apparatus operates in delivering a constant stream of concrete, interrupted only so far as it is interfered with by the air which accompanies it through the discharge pipe. Hackley used a horizontal tank and in his specifications he said: "With the present apparatus the concrete does not tend to pack or bridge around the nozzle as is the case where vertical tanks are used. The mass of concrete which any one air stream is compelled to move is relatively small and unpacked, and therefore the device operates quickly and easily and without danger of becoming clogged." The decisions in Concrete Mixing & Conveying Co. *v.* Ulen Contracting Corp., 12 Fed. ,2d) 929, and Concrete Mixing & Conveying Co. *v.* The Powers-Kennedy Company, relied upon by the appellant, were based on records widely different from that in the case at bar.

The decree is affirmed.

(Endorsed): Opinion filed August 20, 1928. Paul P. O'Brien, Clerk.

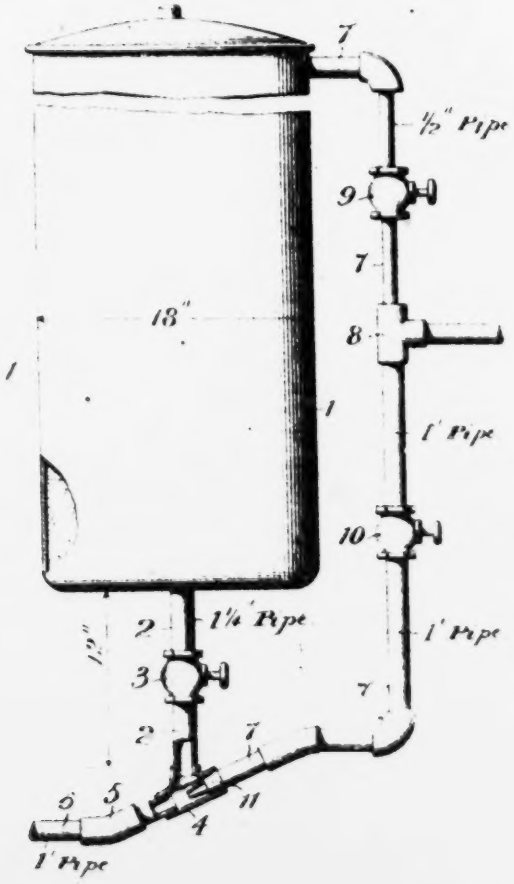
No. 747,396. PATENTED DEC. 22, 1903.

N. FARNHAM.

SAND BLAST APPARATUS.

APPLICATION FILED APR 10, 1903.

NO MODEL.



WITNESSES:

Jas. E. Hutchinson.

H. C. Parker.

INVENTOR

Neal Farnham

by W. E. Redman, Atty.

No. 747,396. Patented December 22, 1903.

UNITED STATES PATENT OFFICE.

NEAL FARNHAM, OF CHICAGO, ILLINOIS.

SAND-BLAST APPARATU.

SPECIFICATION forming part of Letters Patent No. 747,396, dated December 22, 1903.

Application filed April 10, 1903. Serial No. 151,998. (No model.)

To all whom it may concern:

Be it known that I, NEAL FARNHAM, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Sand-Blast Apparatus; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawing, and to the figures of reference marked thereon, which forms a part of this specification.

My invention relates to a sand-blast apparatus; and it has for its object to produce such an apparatus in which the sand will pass from the reservoir or tank by gravity alone or by gravity aided by compressed air within the reservoir under regulation, the sand passing from the tank through a delivery-pipe leading to a blast-pipe provided with a blast nozzle or jet whose point of discharge is substantially beneath the discharge of the delivery-pipe into the blast-pipe, so as to prevent any backflow of air from the sand-carrying pipe or hose into the delivery-pipe and at the same time permitting the air-blast from the blast-nozzle to impact against the sand as it flows from the discharge-pipe, so as to drive it through the sand-carrying hose to the point of its application.

It has, further, for its purpose to provide a coupling between the vertical discharge-pipe leading from the sand-tank, the sand-carrying hose, and the air-blast-supply pipe, arranged so that the coupling will stand at an oblique angle to the longitudinal axis of the discharge-pipe, whereby the air-blast will be projected at an oblique angle across the discharge-mouth of the vertical discharge-pipe, the purpose of the first and second stated objects being to facilitate the freer passage of the sand from the tank through the discharge and into the sand-carrying hose and without clogging of the sand at either end of the discharge-pipe, which otherwise would be liable to occur by reason of back pressure of air in the discharge-pipe and condensation of moisture in the air-blast.

To the accomplishment of the foregoing and such other objects as may hereinafter appear the invention consists in the construction and in the arrangement of parts hereinafter particularly described and then sought to be clearly defined by the claims, reference being had to the accompanying drawing, forming a part hereof, and in which the figure is a side elevation of a sand-tank having my invention applied, a portion of the upper part of the tank being broken away.

In the drawing the numeral 1 designates a tank of any suitable configuration and dimensions designed to hold the sand. From the bottom of the tank leads a discharge-pipe 2, provided with suitable valves or valve 3 to regulate the flow of sand through the pipe. To the lower end of the discharge-pipe is attached a Y-coupling 4, which is inclined to the pipe 2 and, as shown, stands obliquely or at an angle of about forty-five degrees, more or less, to the longitudinal axis of the discharge-pipe. To one end of this coupling is attached, by a nipple 5 or otherwise, a sand-carrying hose 6 of any desired length to lead to the point of application of the sand-blast, which hose may be of pliable material or of rigid material provided with any desired number of flexible joints 6. To the other end of the coupling is connected an air-blast pipe 7, to which compressed air is supplied through a T or other coupling 8 from a suitable source of supply. The other end of the pipe 7 opens into the upper part of the tank 1, and said pipe is provided with a valve 9, by which the supply of air to the tank may be regulated or entirely cut off, and it is also provided with a valve 10, by which the supply of compressed air to the blast-nozzle may be controlled. At the point where the air-blast pipe 7 connects with the inclined coupling 4 it is provided with a nozzle or jet 11, which enters the coupling, so that its point of discharge will lie below the discharge-mouth of the discharge-pipe 2, leading from the tank, the best results being obtained when its point of discharge is about midway of the discharge-mouth of the discharge-pipe. By thus positioning the air-blast nozzle the air is projected across the mouth of the discharge-pipe 2 without the blast passing up into the discharge-pipe and at the same time creates a suction across the discharge-pipe and down through the same, so that the downflow of the sand through the

pipe is greatly facilitated. At the same time the force of the air-blast from the nozzle across the mouth of the discharge-pipe strikes the sand as it issues from the mouth of the pipe and propels it with velocity away from the pipe and through the carrying-hose and prevents any backflow or back pressure from the hose or coupling and into the discharge-pipe. If this back pressure were permitted, it would not only retard the flow of the sand, but it would also result in the sand becoming moist from condensation of the compressed air, and thus the pipe would become clogged and the efficient working of the device interfered with. The inclination of the coupling at the lower end of the discharge-pipe also aids in the rapid flow of the sand from the mouth of the discharge-pipe, so as to aid in preventing backflow or back pressure of air.

By adjustment of the valve 9 more or less pressure of air may be admitted to the tank to assist the outflow of sand therefrom and its outflow regulated to a nicety, or the air may be entirely cut off from the tank.

The tank may be supported from the ground upon any suitable stand or otherwise supported.

I have indicated on the drawing the preferred dimensions of the parts; but they may be varied within reasonable limits.

Having described my invention and set forth its merits, what I claim is—

1. A sand-blast apparatus comprising the tank, the discharge-pipe leading from it, the compressed-air-supply pipe, sand-carrying hose, and the air-blast nozzle having its point of discharge beneath the mouth of the discharge-pipe leading from the tank, substantially as described.

2. A sand-blast apparatus comprising the tank, the discharge-pipe leading from it, the inclined coupling at the lower end of the discharge-pipe, the compressed-air-supply pipe, the sand-carrying hose, and the air-blast nozzle entering the inclined coupling and having its point of discharge beneath the mouth of the discharge-pipe leading from the tank, substantially as described.

3. A sand-blast apparatus comprising the tank, the discharge-pipe leading from it, the sand-carrying hose, the compressed-air-supply pipe opening into the upper part of the tank and having the upper and lower controlling-valves, the inclined coupling between the sand-carrying hose, the compressed-air-supply pipe and the discharge-pipe from the tank, and the air-blast nozzle having its point of discharge in the inclined coupling beneath the mouth of the discharge-pipe from the tank, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

NEAL FARNHAM

Witnesses:

W. G. HOLLISON,

[illegible]